

## 3.10 Land Use Plans and Policies

The proposed Energy Facility, including the Energy Facility site, electric transmission line, natural gas pipeline, and water supply well system and pipeline, would comply with the Klamath County Land Development Code (LDC) and the Klamath County Comprehensive Plan (KCCP). Because of its acreage needs, the Facility would require exceptions to Goals 3 and 4 of the KCCP. Development of the Facility would result in the permanent disturbance during the 30-year operating life of the Energy Facility of 108.7 acres of land from its current use. Of this total, 51.5 acres are zoned for exclusive farmland use and 52.0 for forestry; approximately 50.7 acres of the total is subject to a Significant Resource Overlay designed to protect wildlife. The proposed project has committed to restoring 91 acres of fallow field to habitat conditions and improving another 145 acres of habitat.

The information and conclusions presented in this section are based on Exhibit K (including attachments) in the SCA as amended by Amendments No. 1 and No. 2, filed with EFSC on July 25, 2003, and October 15, 2003, respectively.

### 3.10.1 Affected Environment

#### 3.10.1.1 Land Use Characteristics of the Energy Facility Site and Vicinity

The Facility consists of the Energy Facility site and related or supporting facilities, including a water supply pipeline, a natural gas pipeline, access roads, an electric transmission line, and a 31-acre irrigated pasture area with irrigation pipeline. The Energy Facility is located in a rural area where elevations range from 4,000 to 8,400 feet. The majority of the lowland areas have been converted to agricultural use. The agricultural lands include cultivated crops, irrigated pasture, unimproved pasture, and fallow fields. There are a few developed areas with residential, agricultural, and industrial uses such as farm homes, dairies, the PG&E Gas Transmission Northwest (GTN) compressor station, and the Captain Jack Substation. Table 3.10-1 summarizes the current land uses for the Facility.

The project proponent has approximately 2,700 acres under option, of which approximately 200 acres are for easement purposes and approximately 2,500 acres constitute land that would be purchased in fee title for siting the Facility.

**Energy Facility Site.** The Energy Facility site is located 3 miles south of Bonanza, Oregon, on the east side of West Langell Valley Road No. 520 in Klamath County. Access to the site would be from Langell Valley Road No. 520 (see Figures 2-1, Site Map, and 2-2, Facility Map). The proposed Energy Facility site would occupy approximately 50.6 acres. These areas are currently used for cattle grazing and dryland farming. Due to heavy grazing, the soil is in poor condition and not suitable to raise crops.

**Electric Transmission Line.** The proposed Facility would include construction of an approximate 7.2-mile electric transmission line running south from the Energy Facility to an interconnection at BPA's Captain Jack Substation. Land uses along the proposed electric transmission line route include existing electric transmission lines, fallow agricultural fields used for cattle grazing, selective historical timber harvesting of ponderosa pine woodland, open rangeland/woodlands managed by Federal and private landowners, and the PG&E GTN interstate gas pipeline system.

The ponderosa pine woodland has been selectively logged in the past; old skid roads are present in the area, but there is no evidence of recent logging activity or clearcutting. The ponderosa pine woodland is isolated in a lowland area and is surrounded by rangeland areas characterized by western juniper. Jeld Wen, the owner of most of the land that contains the ponderosa pine, indicates this stand is marginal and is estimated to be ponderosa pine Site Class IV (Ditman, 2002). The scale is I to V, with I being the best. For Class IV, dominant ponderosa pine trees would grow to be 80 to 120 feet tall in 100 years (Dilworth, 1966; Woodward, 1997).

**Natural Gas Pipeline.** A new gas pipeline would be required to supply natural gas to the Energy Facility. It would connect to an existing PG&E GTN gas transmission system line through a 4.1-mile-long, 20-inch-diameter natural gas pipeline constructed from the Bonanza Compressor Station. The construction easement would be immediately adjacent to and along the Klamath County ROW for Harpold County Road No. 1097 and West Langell Valley Road No. 520.

Land uses along the proposed natural gas pipeline route include irrigated pasture, a dairy, industrial land (the compressor station), farming practices related to cattle feed (alfalfa hay and grain silage), rangeland/woodlands where residences are located, and dryland farming and cattle grazing on a fallow field (the last section of the natural gas pipeline before it connects with the Energy Facility). The rangeland/woodlands in this vicinity are characterized by western juniper and do not contain merchantable timber.

**Water Supply Well System and Pipeline.** The source of water for construction and operation of the Energy Facility would be groundwater from a deep aquifer. Water from the water supply well system would be pumped through a 2.8-mile, 6-inch-diameter water supply pipeline to the Energy Facility site. An access road required for construction of the water supply pipeline would be removed and revegetated following completion of the pipeline.

The water supply pipeline would be constructed within a 60-foot-wide temporary construction area on land under ownership options by the project proponent, except for portions of the route that cross Klamath County roads. The route of the water supply pipeline crosses two Klamath County roads: East Langell Valley Road and Teare County Road 1161. In addition, the water supply pipeline would cross an irrigation ditch operated by the Langell Valley Irrigation District in three locations.

Land uses observed along the proposed water supply pipeline route include irrigated pasture, a dairy, an alfalfa hay field, open rangeland/woodlands managed by private landowners, and dryland farming and cattle grazing on a fallow field (the last section of the water supply pipeline before it connects with the raw water storage tank on the Energy Facility site). The rangeland/woodlands are characterized by western juniper and do not contain merchantable timber.

**Irrigated Pasture Beneficial Use Area.** Process wastewater from the Energy Facility would be managed to provide beneficial use by irrigating 31 acres of pasture. Process wastewater would be stored in two 5-MG tanks (one 5-MG tank for each 580-MW power block) prior to pumping over to and irrigating the pasture area. The pasture area would be reduced in half if one 580-MW power block is constructed and later expanded to 31 acres if the second 580-

power block is constructed. This irrigated area would produce forage crops for cattle, deer, and antelope.

### 3.10.1.2 Local Comprehensive Plan Land Use Designation and Zoning

The Energy Facility would be sited solely in Klamath County. Figure 3.10-1 depicts the Facility location, and shows the KCCP designations and land use zones of the Facility and adjacent properties. Table 3.10-2 identifies the zoning designations applicable to the Energy Facility. The following provides a brief description of the zoning designations:

- **Exclusive Farm Use–Cropland (“EFU-C”).** The EFU-C designation is applied to agricultural areas characterized by row crop, hay, and livestock production in which there is no predominant parcel size.
- **EFU–Cropland/Grazing (“EFU-CG”).** The EFU-CG designation is applied to areas of existing and potential use for mixed cropland and grazing. As relevant to the Facility, the same criteria in LDC Article 54 (EFU) apply to both EFU designations.
- **Forestry (“F”).** The F zone is generally applied to lands composed of existing and potential commercial forest resources and is governed by the criteria in LDC Article 55.
- **Forestry Range (“FR”) regulated as EFU (“FR-EFU”).** The FR zone is applied to lands of mixed farm and forestry uses. However, the FR zone does not contain any independent land-use criteria. Rather, the individual properties zoned FR are regulated either under the EFU standards or under the F standards, depending on the property’s tax status, soil classification, and predominant use. Notwithstanding the potential applicability of local EFU standards, the Klamath County Comprehensive Plan lists and describes the FR zone as forestry land use designation under Goal 4 (Forestry), and not as an agricultural land use designation under Goal 3 (Agriculture).
- **FR regulated as F (“FR-F”).** See FR-EFU above.
- **Light Industrial (“IL”).** The IL zone is intended to establish and maintain places where manufacturing, storage, and wholesale distribution can be undertaken in close proximity to one another without encroaching upon the character of the adjacent land uses.
- **Significant Resource Overlay (“SRO”).** The criteria of the SRO zone, LDC Article 57, are relevant for portions of the Facility. The resources mapped within the SRO include high-density deer winter range and medium-density deer winter range (Figure 3.10-1). The SRO permits development in a manner that does not adversely impact identified resource values.

**Energy Facility Site.** The Energy Facility site would occupy approximately 50.6 acres zoned Exclusive Farm Use—Cropland (EFU-C). The vast majority of the Facility would be on non-high-value soil. Of the total acreage, approximately 3.7 acres would be high-value farmland soil. The SRO designated for Big Game Winter Range would apply to 13.9 acres of the Energy Facility site.

**Electric Transmission Line.** The electric transmission line would originate on the EFU-C zoned Energy Facility site; thereafter, it would cross land zoned FR and F. The 154-foot-

wide easement for the electric transmission line, including the transmission towers and those portions of the access road within the easement, would occupy a total of approximately 134.0 acres. New access roads to serve the transmission line would require approximately 43.0 acres and existing access roads would cover an additional 8.8 acres outside of the 154-foot-wide easement.

Approximately 17.0 acres of the electric transmission line easement are EFU-zoned land, of which 2.4 acres are high-value-soil farmland. Operation of the transmission line would not preclude grazing activities within the 154-foot-wide easement on EFU-zoned land, and with the exception of the areas occupied by the access road and tower footings, the area would be available for continued agricultural and wildlife uses. As a result, the electric transmission line would preclude only 5.3 acres of EFU-zoned land from agricultural use.

The electric transmission line 154-foot wide easement would occupy approximately 117.0 acres of F-zoned land (87.1 acres of FR and 29.9 acres of F). For safety reasons, the vegetation-control practices within the 154-foot-wide easement would preclude potential commercial timber activities on this F- and FR-zoned land. However, the actual impact to commercial forest operations would be less. Only an approximate 24.6 acres of the 117.0 acres are considered merchantable and are managed, in part, for commercial timber values (forest range). In addition, the transmission line access roads outside of the 154-foot-wide easement would occupy and preclude 4.4 acres of F-zoned land from potential commercial forest operation.

The SRO (Big Game Winter Range) designation would apply to a 82.0-acre portion of the electric transmission line 154-foot-wide easement.

**Natural Gas Pipeline.** With the exception of portions of the natural gas pipeline extending from the PG&E GTN compressor station to the public right-of-way, and from the public right-of-way to the Energy Facility site, the entire natural gas pipeline would be sited along existing public rights-of-way. The natural gas pipeline would originate at the plant site on EFU-zoned land, and then would cross FR-zoned and other EFU-zoned land to reach the compressor station located on IL land. The interconnection with the natural gas compressor station and lead to the road right-of-way is located in the IL zone. All but 0.8 mile of the 4.1-mile-long pipeline would be on EFU-zoned land (or IL land).

The SRO would apply to a portion of the buried natural gas pipeline, but not to the compressor station interconnect, and high-value soil would be present on the pipeline route, but not at the compressor station interconnect. Upon full soil and vegetation restoration, no soil or agricultural practices would be permanently disturbed. The small area where the pipeline crosses FR-zoned land (and which is not currently managed for commercial timber values) may not be planted in commercial timber for pipeline safety reasons.

**Water Supply Well System and Pipeline.** The existing Babson well, the two additional water supply wells, and the water supply pipeline would be located on EFU-zoned land. The water supply pipeline and construction easement would temporarily impact approximately 19.4 acres of EFU-zoned land. Upon completion of restoration and revegetation, there would be no permanent impacts to agricultural lands. The SRO would apply to a 7.9-acre portion of this water pipeline alternative but would not apply to the water supply well system site.

**Irrigated Pasture Area.** Process wastewater would be land applied to a 31-acre site designated as EFU-zoned, fallow agricultural land, and ODFW Category 2. The wastewater would be used during the growing season to irrigate pasture for cattle grazing, but the area would also be accessible to wildlife. This acreage is not included in the overall project impacts because it consists of existing fallow fields that are not currently irrigated. Irrigating the pasture area would enhance, not impact, forage for deer and antelope and cover for game birds. Approximately 5.7 acres would be temporarily impacted by an access road and pipeline to the irrigated fields. Permanent impacts would consist of a 0.5-acre access road designated as Category 2 habitat.

**Infiltration Basin.** A 4.7-acre stormwater infiltration basin would be constructed adjacent to the Energy Facility. This basin would lie entirely in Category 4-designated habitat and would be included in the overall assessment of Energy Facility impacts.

### 3.10.1.3 Plans and Policies

No Federal land use management plan is applicable to the Facility.

Klamath County is the only local government with land use jurisdiction over the Energy Facility. The County has an acknowledged comprehensive plan and zoning code. The Energy Facility would be considered a conditional use. The Energy Facility would comply with applicable local and state land use regulations, with two exceptions—Goals 3 and 4 of the Klamath County Comprehensive Plan. These exceptions are discussed below.

- **Goal 3:** Both high-value and non-high-value soil would be located within the Facility (Figure 3.10-3). On EFU-zoned lands, the Facility would exceed Goal 3's 12-acre limitation for a power generation facility on land having high-value soil (OAR 660-033-0130(17)) and the 20-acre limitation for a power generation facility on land having non-high-value soil (OAR 660-033-0130(22)). An exception to Goal 3 would be required; justification for this exception is documented in Exhibit K of the SCA, as amended by Amendments No. 1 and No. 2, filed with EFSC on July 25, 2003, and October 15, 2003, respectively.
- **Goal 4:** On F-zoned lands, the electric transmission line and the natural gas pipeline would collectively exceed the 10-acre limitation for a power generation facility on commercial forest land (OAR 660-006-0025(4)(j)). An exception to Goal 4 would be required; justification for this exception is documented in Exhibit K of the SCA as amended by Amendments No. 1 and No. 2, filed with EFSC on July 25, 2003, and October 15, 2003, respectively.

Pursuant to the LDC and ORS 215.296, the Facility would not force a substantial change in or substantially increase the cost of accepted farm practices. The Facility also would not seriously interfere with accepted forest practices on adjacent lands devoted to forest uses, would not force a substantial change in accepted forest practices on surrounding forest land, and would generally protect the viability of the agricultural economy in the area.

### 3.10.1.4 Consistency with Local Comprehensive Plan Land Use Designation and Zoning

The Facility would be categorized under the Klamath County code as "commercial utility facilities for the purpose of generating power for public use by sale." As such, the Facility

could be permitted as a conditional use in the EFU, FR, F, IL, and SRO zones. The Facility would meet criteria for conditional use under each zone.

### **3.10.1.5 Conformance with Plans and Policies**

The Facility is consistent with the relevant policies of the KCCP. Further, the Facility would advance Goal 9, County Economy, because it would strengthen and diversify the economic base of the County. A description of the Facility's consistency with the applicable KCCP policies follows.

- **Goal 1, Citizen Involvement:** *"To encourage an effective citizen participation process that would meaningfully involve phases of the County Comprehensive Planning process."*

The Facility would be consistent with this goal. EFSC site certificate rules that apply to the proposed Energy Facility provide sufficient notice and comment periods to satisfy Goal 1. The National Environmental Policy Act also requires public participation. The Facility has complied with EFSC and NEPA public-notice requirements to date, and would continue to do so. Chapter 1 of this EIS contains information on the public involvement activities conducted for the proposed Facility.

- **Goal 2, Land Use Planning:** *"To establish a land use planning process for the County as a basis for all decisions and actions related to use of land and to ensure an adequate factual base for such decisions and actions."*

Neither Goal 2 nor any of its specific policies would apply to the Facility, because the project proponent is proceeding under a specific, statutorily created land-use option, ORS 469.504(1)(b)(B).

- **Goal 3, Agricultural Lands:** *"To encourage and allow agricultural operations consistent with the well-being of individual owners and operators, and to preserve the viability of real property ownership."*

As described in Section 3.10.1.3, an exception to this goal would be required.

- **Goal 4, Forest Lands:** *"To encourage conservation of forest lands in Klamath County for forest uses."*

As described in Section 3.10.1.3, an exception to this goal would be required.

- **Goal 5, Open Spaces and Scenic, Historic, and Natural Resources:** *"To preserve open space and protect natural and scenic resources in Klamath County."*

As described in Sections 3.4, 3.5, 3.8, and 3.9, the Facility would avoid impacts to vegetation, fish and wildlife habitat, scenic views, and cultural areas, historic sites, and archaeological resources identified in the project area. The site certification process through which the proposed Energy Facility must proceed for approval, provides an opportunity for appropriate state and Federal agency review and comment.

- **Goal 6, Air, Water, and Land Resources:** *"To maintain and improve the quality of the air, water and land resources of Klamath County."*

As described in Sections 3.3, 3.7, and 3.10, the Facility would not adversely affect the water, air, or land resources of the state. Furthermore, the project proponent would obtain the necessary air-quality and water-quality permits and land-use approvals from ODEQ, the Water Resources Department, and EFSC through the siting process and through ODEQ's air-quality permitting process.

- **Goal 7, Areas Subject to Natural Disasters and Hazards: "To protect life and property from natural disasters and hazards."**

This goal is intended to ensure that developments that could be damaged by natural disasters, with the potential for injury to persons or property, are approved only when appropriate safeguards are in place. The Facility would satisfy this goal.

- **Goal 8, Recreational Needs: "To recognize the recreation needs of the citizens of the County and visitors."**

The Facility would be consistent with this goal. No existing recreational resources would be located within 5 miles of the Facility site, and development would not adversely impact any existing recreation trails. BLM has proposed the Modoc Trail and Bryant Mountain trails and primitive campsites, which are within 5 miles of the proposed Facility but would not be likely to conflict with the Facility.

- **Goal 9, County Economy: "To diversify and improve the economy of Klamath County as set forth herein, intending results that nurture a productive and growing economy so as to add to the well-being of all people who participate in Klamath County. All plans, designs, processes, ordinances, and goals shall give strong consideration to this goal, to amplify the healthiest economic impacts of Klamath County."**

The Facility would diversify and strengthen the economic base of the County by adding an energy facility use to a predominantly agricultural area. The Facility would provide a substantial number of construction jobs, ranging from 147 to 543 during the construction period, with an average of 352. Operation of the Energy Facility would require 25 to 30 full-time employees. The 30 permanent jobs would provide a combined annual salary of \$2.75 million that would contribute to the local economy.

For agricultural and forest producers that provide easements to the Facility, the Facility would provide an additional source of income that would help such producers weather lean economic times. The project proponent's capital investment in the Facility, estimated at over \$700 million, would provide tax revenues to the County over the Facility's lifetime; indirect and direct fiscal benefits to the County are calculated to be over \$575 million within 32 years following mobilization. Unlike other developments, energy facilities impose very little demand upon public services. Consequently, increased tax revenues to the County would not likely have any substantial offsetting costs for public services. Finally, the Facility would help ensure that reliable power would be available for commercial and industrial customers in the Pacific Northwest in order to maintain and expand the region's economic productivity.

- **Goal 10, Housing: "To provide for the housing needs of the County."**

No specific housing policies would apply to the Facility, and the Facility would not interfere with the County's ability to provide needed housing for its citizens. As described in

Section 3.11, the region contains adequate housing for full-time Facility employees during construction and operation. The Facility would not be located on any lands designated for future residential use.

- **Goal 11, Public Facilities and Services: “To plan and develop a timely, orderly and proven efficient arrangement of public facilities and services as a framework for urban and rural development.”**

The Facility would be consistent with this goal. Existing public services in the project area would remain adequate with the addition of the Facility (Section 3.12).

- **Goal 12, Transportation: “To provide and encourage a safe, convenient and economic transportation system.”**

The Energy Facility site would have direct access to West Langell Valley Road, which provides convenient access to OR 70. Highway 97 would be approximately 34 miles west of the Energy Facility site. The Facility would also be close to the Klamath Falls Municipal Airport (40 miles) for air service. The Facility would require the construction of private access roads to the Energy Facility site and along the electric transmission line easement. The Facility would not otherwise require the permanent construction of new roads or other transportation facilities, nor would it create any long-term conflicts with or burdens on such facilities in the County. As discussed in Section 3.6, the existing transportation system would be adequate, with mitigation when necessary, for construction and operation of the Facility.

- **Goal 13, Energy Conservation: “To conserve energy.”**

The Facility would be a state-of-the-art power generation facility that would utilize natural gas and process steam to generate power. This process is a highly efficient and clean way to produce energy for use by existing and future development in the County and throughout the western United States.

- **Goal 14, Urbanization: “[To establish urban growth boundaries] to identify and separate urbanizable land from rural land.”**

No specific policies under this goal would apply to the Facility. However, in general, the Facility would be consistent with this goal. No suitable or available urban industrial land exists for the Facility in proximity to the existing natural gas, groundwater, and electric transmission line facilities. Energy facility uses such as the use proposed are permitted on agricultural land by state statute. The site is relatively remote, and the Facility would not alter or change the character of the surrounding area from rural to urban, because energy facilities in rural areas do not attract growth.

### **3.10.2 Environmental Consequences and Mitigation Measures**

Impact 3.10.1. The proposed Facility would permanently disturb a total of 108.7 acres of land during the 30-year operating life of the Energy Facility, including an approximate 45.5 acres of land within the Klamath County Big Game Winter Range SRO. However, as mitigation, 91 acres of fallow field would be restored and 145 acres of habitat would be improved.



Assessment of Impact. The SRO zone would apply to portions of the Facility, including the Energy Facility site, electric transmission line, water supply pipeline, and natural gas pipeline. Under the Klamath County Code, the Deer Winter Range SRO that overlaps with the Facility is “considered to be significant[,] and conflicting uses to the resource shall be limited in order to protect the resource from irreparable harm” (LDC § 57.020).

The Klamath County Code considers facilities such as the Energy Facility to be an “extensive impact facility” and a “conflicting use” with the Big Game Winter Range. The LDC requires a conditional use permit for construction of extensive impact facilities in the SRO.

It should be noted that Klamath County mapped the SRO at a gross scale and created winter range boundaries based on property lines rather than habitat characterizations or habitat-based delineations. Of the approximately 45.5 acres of SRO permanently impacted by the Facility, approximately 13.9 acres are located at the Energy Facility site, which consists of fallow agricultural fields and provides minimal habitat and forage value for wintering deer. If the 13.9 acres were to be rated based on biological criteria rather than inclusion on the County maps, they likely would not be included in the SRO. The remaining area of permanent disturbance to the SRO would be 31.6 acres along the electric transmission line.

The electric transmission line 154-foot-wide easement would occupy 82.0 acres of SRO land; however, approximately 50.4 acres would remain available for ongoing wildlife uses. Approximately 13.9 acres of the Energy Facility site would be SRO land that would be unavailable to wildlife uses during operation. Even though the Energy Facility site is a deer resource, that habitat provides degraded forage, as described in Section 3.4 of this EIS and Exhibit P of the SCA as amended by Amendments No. 1 and No. 2, filed with EFSC on July 25, 2003, and October 15, 2003, respectively. Exhibit P also includes an explanation of the restoration and revegetation activities the proposed project would undertake to ensure that the Facility would not destroy the significance of the deer winter range.

As mitigated, the Facility would not result in a substantial adverse impact on an identified resource value. Indeed, the project proponent is complying with ODFW’s policy of allowing no net loss of habitat quantity or quality and requiring a net benefit to habitat quantity or quality. The project proponent would restore 91 acres of currently fallow agricultural land to high quality deer habitat. Further, an additional 145 acres within the Facility-owned property would be enhanced and restored to improve habitat values.

No feasible alternative location exists for the Energy Facility site. There is no nonresource site of sufficient size that would provide feasible access to the three necessary resources for the Facility: (1) the Bonanza Compressor Station, (2) deep-water aquifer/Babson well, and (3) the Captain Jack substation. The project proponent has considered alternative routes for the water supply pipeline and transmission line, and the proposed routes are the most direct routes available that cause the least amount of disruption to cultural and natural resources.

The Facility is being sited to minimize adverse impacts. The Energy Facility components are situated, where feasible, to coincide with degraded forage areas and areas with poor soil quality. Further the Facility components are sized based on technical feasibility and safety considerations. In addition, although the Energy Facility site provides winter range habitat, that habitat is generally degraded, and the Energy Facility site is configured to permit onsite

and contiguous mitigation opportunities that would improve the overall quality of habitat available for deer winter range use. The project proponent would be restoring or improving approximately 236 acres for higher-quality deer winter range habitat.

The water supply pipeline would be buried and the ground rehabilitated and revegetated. The area would remain available for wildlife use.

The natural gas pipeline would be buried along existing road rights-of-way. The construction area would be rehabilitated and available for wildlife use.

The electric transmission line is the most direct route reasonably available, and, in any event, vegetation control and maintenance within the easement would not impact continued wildlife use. Further, the transmission tower footings would occupy minimal land area, and the project proponent is locating these footings in areas that would minimize impacts on forage resources. The project proponent has also sited the access roads in order to minimize disruption. Indeed, the project proponent is utilizing and improving existing access roads where possible, and their use would not be frequent enough to disrupt or pose a hazard to wildlife.

Recommended Mitigation Measures. No measures beyond those included in the proposed project are recommended.

Impact 3.10.2. Operations at the Energy Facility site would have limited impact on agricultural activities.

Assessment of Impact. There would be no permanent impacts to agricultural (crop production and cultivation) practices and crop management techniques by operation of the Facility, except for the Energy Facility site. The Energy Facility site is zoned for agriculture and attempts have been made in the past at raising crops; however, the site has been heavily grazed and soil and vegetation productivity are low.

Recommended Mitigation Measures. No mitigation measures are recommended.

Impact 3.10.3. Construction of the Energy Facility would temporarily impact agricultural activities.

Assessment of Impact. Temporary construction impacts to agricultural activities (crop production and cultivation) would occur to approximately 23.5 acres of the total 43.8 acres of temporary disturbance along the natural gas pipeline and approximately 1.4 acres of the total 19.4 acres of temporary construction disturbance along the water supply pipeline. No temporary impacts would occur to agricultural activities near the Energy Facility site, evaporation pond, or electric transmission line.

The project proponent would use BMPs to construct the Facility to avoid and minimize potential impacts to agriculture activities. The following types of impacts could occur to agricultural lands and practices during construction, although the use of BMPs would reduce the likelihood of these impacts:

- Removal of standing crops within construction areas to create a safe work area
- Mixing of topsoil with subsoil and excess rock
- Soil compaction from the operation of heavy equipment on agricultural soil

- Damage to drainage tile systems from trenching or heavy equipment
- Damage to irrigation systems from trenching, heavy equipment, and other activities
- Damage to excessively wet soil, including rutting and excessive soil compaction
- Distribution of noxious weeds to uncontaminated sites, causing new infestations
- Movement of soil-borne pathogens to previously uninfected areas
- Isolation of a field, delaying its spraying, fertilizing, tillage or harvest
- Blocked or impeded access to fields due to road closures or detours
- Soil erosion
- Creation of dust

Recommended Mitigation Measures. The project proponent prepared an Agricultural and Forestry Practices Impact Mitigation Plan, SCA Attachment K-5, submitted to EFSC for review and approval. The following measures are recommended to minimize construction impacts on agricultural practices:

- Consult with landowners and farmers to address field access, revegetation, timing, and other sensitive cropping issues.
- Consult with landowners to identify the locations of drainage and irrigation systems.
- Flag tile and irrigation lines prior to construction.
- Maintain the flow of irrigation water during construction or coordinate a temporary shutoff with affected parties.
- Coordinate with farm operators to provide access for farm equipment to fields isolated by construction activities.
- Bury the natural gas pipeline and water supply pipeline with 4 feet of topcover; the pipelines would be installed under drain tiles unless the drain tiles are located deep enough to allow the pipelines to be installed above the drain tile with at least 4 feet of topcover over the pipelines and, where feasible, a 12-inch clearance between the tile and the pipelines. Where feasible and practicable, install the pipelines with greater than 4 feet of topcover where specifically requested by the landowner to allow for certain site-specific conditions or practices. Install plastic warning ribbon approximately 12 inches above the buried pipelines to provide a greater level of safety for potential future excavation activities.
- Follow an erosion and sediment control plan as part of NPDES General Construction Permit 1200-C; control the discharge from trench dewatering to avoid damaging adjacent agricultural land, crops, or drainage systems.
- Control dust emissions generated during construction, as necessary, by the control of vehicle speed, by wetting the construction area or by other means; coordinate with farm operators to provide adequate dust control in areas where specialty crops are susceptible to damage from dust contamination.
- Identify potential noxious weed and soil-borne pathogen threats before construction and develop appropriate plans for their containment.

- Require contractors to thoroughly clean construction equipment prior to moving into a new construction area or relocating from one construction area to another.
- Consult with the appropriate agencies to determine the location of noxious weeds.
- Make reasonable efforts to obtain straw bales for erosion control and straw for mulch that are free of noxious and nuisance weed contamination.
- Use Oregon-certified seed or equivalent for revegetation.
- Construct linear facilities adjacent to public rights-of-way and along property lines, and avoid bisecting fields.
- Where possible, strip and segregate topsoil from subsoil over the trench, from the trench spoil storage area, and from areas subject to grading in agricultural lands. Store topsoil immediately adjacent to the stripped area to the extent practical and replace the segregated topsoil after the trench is backfilled and the subsoil is restored to grade.
- Take suitable precautions to minimize the potential for oversize rock to be introduced into the topsoil and to become interspersed with soil that is placed back in the trench, and remove excess surface rock from agricultural soil following construction activities.
- Locate temporary access roads used for construction purposes in coordination with the landowner and any tenants. Where feasible, identify existing farm lanes as preferred temporary access roads for construction, and design and construct temporary roads with proper drainage and to minimize soil erosion.
- Restrict the operation of vehicles and heavy equipment, take other appropriate action, on excessively wet soil on the portion of the construction work area in agricultural land where the topsoil is not stripped and segregated so that deep rutting does not result in the mixing of topsoil and subsoil.

The following measures are recommended to mitigate and minimize temporary construction impacts on agricultural practices:

- Restore and return to agricultural use the areas temporarily impacted by construction.
- Restrict deep root, invasive crops that can cause damage to the buried pipelines limited to a 10-foot-wide area (centered over the centerline) directly over the pipelines.
- Restore drainage patterns to prevent ponding of water.
- Implement additional restoration efforts if visual crop deficiencies occur on the construction area.
- Inspect the construction areas for noxious weed infestations following construction and treat any new infestations resulting from construction activities.
- Use appropriate tillage on compacted agricultural land to relieve soil compaction and follow tillage with revegetation of affected areas.
- Repair or replace damaged irrigation lines or drainage tiles.

Impact 3.10.4. Construction of the Energy Facility could have temporary impacts to dairy operation.

Assessment of Impact. Impacts to dairy management would be limited to temporary impacts associated with the construction of the proposed natural gas pipeline. These impacts would occur during a period of less than 4 months. Temporary disruption of dairy operations could be caused by the deferral of crop production, impacts to soil productivity, or the interruption of drainage, irrigation, or transportation services. These areas would be fully restored and returned to use after construction. Agreements for compensation and coordination of construction have been made with the dairy.

Recommended Mitigation Measures. The following measures are recommended to minimize impacts to the dairy operation, in addition to those recommended to minimize construction impacts on agriculture uses:

- Coordinate construction and operation of the natural gas pipeline with the dairy to address field access, revegetation, construction timing, and other sensitive dairy management issues.
- Do not allow the use of herbicides along the natural gas pipeline route near the dairy as part of the weed control and revegetation activities during and following construction, because the dairy is currently in the process of obtaining Organic Certification for its milk operation.

In addition to the mitigation measures described under Agriculture, one additional measure would be employed to mitigate construction impacts on the dairy operation: following construction, dairy operation would resume on the construction area, including the permanent easements.

Impact 3.10.5. The Energy Facility site would have permanent and temporary impacts to pasture land.

Assessment of Impact. Approximately 50.6 acres of fallow field (with some limited pasture) would be permanently impacted by the Energy Facility site. Access roads and transmission towers for the electric transmission line would permanently impact approximately 0.6 acre of pasture and approximately 1.4 acres of fallow field. The water supply well system would permanently impact approximately 0.3 acre of pasture.

BMPs would be used during construction of the Facility to minimize and mitigate potential impacts to pasture activities. Potential impacts to pasture practices include temporary disruption of livestock feeding or water areas, and removal of fences where construction easements extend into pastures. Collectively, the natural gas pipeline, water supply pipeline, and electric transmission line would temporarily impact approximately 7.7 acres of pasture, approximately 25.3 acres of agricultural field, and approximately 6.4 acres of fallow field. Also, approximately 71.0 acres of fallow field (with some limited pasture) would be used for temporary construction parking and laydown areas at the Energy Facility site.

Recommended Mitigation Measures. Landowners and tenants would be consulted to develop livestock management practices to be implemented during construction. Such practices would minimize impacts to pasture activities. The following measures would be employed to mitigate potential impacts on pasture practices:

- Provide access across the construction areas at convenient intervals to allow livestock to cross.
- Construct temporary fences and gates across the construction area, as necessary.
- Repair or replace fences damaged by construction.

Impact 3.10.6. Construction impacts would occur to rangeland/woodlands along the natural gas pipeline, water supply pipeline, and electric transmission line, and permanent impacts would occur to rangeland/woodlands along the electric transmission line.

Assessment of Impact. Temporary construction impacts to rangeland/woodlands (juniper-sage habitat and sage-steppe habitat) would occur on approximately 9.0 acres along the natural gas pipeline, approximately 10.2 acres along the water supply pipeline, and approximately 47.4 acres along the electric transmission line.

Permanent impacts to rangeland/woodlands would occur to approximately 42.0 acres (31.6 acres juniper-sage habitat and 10.4 acres sage-steppe habitat) along the electric transmission line. Western juniper woodlands exist within the permanent disturbance, and removal of this invasive juniper would benefit the rangeland/woodlands. There would be no permanent impacts on rangeland/woodlands resulting from the natural gas pipeline and water supply pipeline.

The project proponent would use BMPs to construct the Facility to avoid and minimize potential impacts to rangeland/woodlands. Potential impacts could include temporary disruption of livestock feeding or water areas and removal of fences where construction easements would extend into rangeland. The use of BMPs would reduce the likelihood that these impacts would occur.

Recommended Mitigation Measures. The following measures would be employed to minimize impacts on rangeland/woodlands:

- Consult with landowners and tenants to minimize conflicts with range operations.
- Provide access at convenient intervals to allow livestock to cross the construction area.
- Construct temporary fences and gates across the construction area as necessary to maintain livestock usage.
- Confine construction activities to permanent easement area.
- Designate equipment travel routes.
- Design and construct new access roads with proper drainage and to minimize soil erosion.
- As feasible, minimize work on excessively wet soil so that soil productivity is preserved or can be restored.
- Follow an erosion and sediment control plan as part of the NPDES General Construction Permit 1200-C.

- Control dust emissions generated during construction, as necessary, by the control of vehicle speed, by wetting the construction area, or by other means.
- Identify potential noxious weeds and incorporate measures to control their spread and establishment in the construction and revegetation plans.
- Clean construction equipment prior to relocating equipment from one area to other areas.
- Consult with agencies to determine the location of noxious weeds.
- Make reasonable efforts to obtain straw bales for erosion control and straw for mulch that are free of noxious and nuisance weed contamination.
- Use Oregon-certified seed or equivalent for revegetation.

The following measures would be employed to mitigate impacts on rangeland/woodlands:

- Revegetate temporary disturbance areas as soon as practical after construction.
- Repair damages to rangeland that result from construction and operation of the Facility.
- Disk or rip compacted soil to relieve soil compaction in temporary construction areas, and leave the areas in a condition ready for restoration.
- Treat new weed infestations resulting from construction activities.
- Repair or replace fences damaged by construction.
- Restore temporary access roads to preconstruction condition or better, unless otherwise specified in the landowner easement agreement.

Impact 3.10.7. Permanent impacts would occur to forest ranges along the electric transmission line.

Assessment of Impact. Permanent forest impacts would be limited to approximately 12.4 acres of privately and federally owned commercial timberland within the southern third of the easement for the electric transmission line. This acreage would include the permanent improvements (footings, access roads, and vehicle turnaround areas). This commercial timberland is an isolated stand of ponderosa pine surrounded by juniper woodland. As stated above, this stand is of marginal value. Construction activities would not interfere with forest operations on adjacent land because the timber value is marginal and the stand is limited in size.

The permanent impacts would occur where timber would be cleared for staging, material laydown, temporary access, elimination of hazard trees, and to create a safe work area; and where the height of vegetation would be controlled during operation of the electric transmission line. Clearing and controlling vegetation height would be required for safe and uninterrupted operation of the electric transmission line.

The project proponent would use BMPs to construct the Facility to avoid and minimize potential impacts to forest land. The following lists the types of potential impacts that might

occur, although the use of BMPs would reduce the likelihood that these situations would occur:

- Precommercial and premature harvesting of timber and deferring tree growth and productivity where vegetation height would be controlled
- Increased distribution and establishment of noxious weeds along vehicle access routes and at disturbed soil areas
- Increased windthrow hazard to trees next to the permanent easement
- Increased soil erosion during construction and during the interval between construction and the reestablishment of a vegetative cover on the construction area
- Increased dust from access roads
- Increased soil compaction from roads and the operation of heavy equipment on forest soil
- Interference with livestock grazing practices on forestland
- Increased exposure to sunlight (sidelighting) along cleared easement
- Damaged trees from herbicide spray drift during vegetation maintenance in the permanent easement

Recommended Mitigation Measures. The following measures would be employed to minimize temporary and permanent impacts on forest practices, as follows:

- Consult with forest landowners to minimize conflicts with forest operations.
- Confine construction activities to the electric transmission line easement.
- Designate equipment travel routes and limit equipment operation outside those routes.
- Design and construct access roads with proper drainage and to minimize soil erosion.
- Take appropriate action to minimize rutting on excessively wet soil.
- Follow an erosion and sediment control plan as part of NPDES General Construction Permit 1200-C.
- Control dust emissions generated during construction, as necessary, by the control of vehicle speed, by wetting the construction area, or by other means.
- Require contractors to thoroughly clean construction equipment prior to relocating equipment from one area to other areas or before initially moving into a construction area.
- Consult with the appropriate agencies to determine the location of noxious weeds in the vicinity and take appropriate action to minimize the spread of noxious weeds.
- Make reasonable efforts to obtain straw bales for erosion control and straw for mulch that are free of noxious and nuisance weed contamination.



- When available, use Oregon-certified seed or equivalent for revegetation.
- Inspect for noxious weed infestations following construction.
- Inspect the restoration of temporarily-impacted timberlands.
- Provide access at convenient intervals to allow livestock to cross the construction area.
- Construct temporary fences and gates across the construction area as necessary to maintain livestock usage.

Potential impact mitigation measures for forest practices are listed below:

- Implement timberland restoration measures, as necessary, in cooperation with affected landowners.
- Repair damages to forestland that result from construction and operation of the electric transmission line.
- Disk or rip compacted forest soil to relieve soil compaction in temporary construction areas, and leave the areas in a condition ready for reforestation.
- Treat new weed infestations resulting from construction activities.
- Repair or replace fences damaged by construction.

### **3.10.3 Cumulative Impacts**

During its 30-year operating life, the proposed Energy Facility would result in the permanent disturbance of 108.7 acres of land. Of this total, 56.7 acres are zoned for exclusive farmland use and 52.0 acres for forestry and forestry-range; approximately 50.7 acres of the total is subject to an SRO designed to protect wildlife. In conjunction with other development in the Klamath Basin, this conversion could contribute to increasing urbanization and intensification of land uses over time. However, because of its location, the unique attributes of energy facilities in general, and its dependency on local natural resources, the Facility is not expected to be a catalyst for such change, either in the immediate vicinity or within the region.

Cumulative impacts related to land use include the following:

- Conversion of agricultural and grazing land to industrial use
- Conversion of wildlife habitat to uses that would exclude wildlife

The resource impact area is generally the area encompassed by the land between and bordering West Langell Valley Road and East Langell Valley Road, plus the land bordering the proposed pipelines and transmission line. The proposed Energy Facility would convert agricultural land to industrial use for the operating life of the project. There are no known past, current, and potential future actions that would lead to cumulative impacts of conversion of the agricultural lands.

Impacts on wildlife habitat have occurred in the past and are likely to occur in the future from agricultural practices, grazing, and other disturbances. The construction and operation of the proposed Energy Facility would also contribute to these cumulative impacts.

However, the project proponent has committed to mitigation for impacts on wildlife habitat by converting 91 acres of fallow agricultural land to wildlife habitat and improving an additional 145 acres of degraded habitat.

**TABLE 3.10-1**  
Current Land Use for the Energy Facility—Temporary and Permanent Disturbance

Description	Agriculture		Pasture		Rangeland		Fallow Field		Forested Range		Developed		Totals	
	Temp.	Perm.	Temp.	Perm.	Temp.	Perm.	Temp.	Perm.	Temp.	Perm.	Temp.	Perm.	Temp.	Perm.
Energy Facility site	0.0	0.0	0.0	0.0	5.4	0.0	116.2	50.6	0.0	0.0	0.0	0.0	121.6	50.6
Water supply well system	0.0	0.0	1.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	0.3
Natural gas pipeline	23.9	0.0	0.8	0.0	12.0	0.0	3.5	0.0	0.0	0.0	3.6	0.0	43.8	0.0
Water supply pipeline	1.4	0.0	6.3	0.0	10.9	0.0	0.8	0.0	0.0	0.0	0.0	0.0	19.4	0.0
Electric transmission line	0.0	0.0	0.0	0.0	49.8	44.1	1.1	0.8	14.0	12.4	0.0	0.0	64.9	57.3
Irrigation pipeline and access road	0.0	0.0	0.0	0.0	0.0	0.0	5.7	0.5	0.0	0.0	0.0	0.0	5.7	0.5
Total	25.3	0.0	8.4	0.3	78.1	44.1	127.3	51.9	14.0	12.4	3.6	0.0	256.7	108.7

Notes:  
Developed land includes county roads.  
Rangeland includes juniper-sagebrush, sage-steppe, and ruderal vegetation types.

**TABLE 3.10-2**  
Zoning for the Energy Facility—Permanent Disturbance

Description	EFU Zone*		Forestry Zone*		Industrial Zone		Total	SRO	
	Acres	%	Acres	%	Acres	%	Acres	Acres	%
Energy Facility site	50.6	100	0.0	0	0.0	0	50.6	18.6	37
Water supply well system	0.3	100	0.0	0	0.0	0	0.3	0.0	0
Natural gas pipeline	0.0	0	0.0	0	0.7	0	0.7	0.0	0
Water supply pipeline	0.0	0	0.0	0	0.0	0	0.0	0.0	0
Electric transmission line	5.3	9	52.0	91	0.0	0	57.3	31.6	55
Irrigated pasture access road	0.5	100	0.0	0.0	0.0	0	0.5	0.5	100
Total	56.7	57	52.0	53	0.0	0	108.7	50.7	52

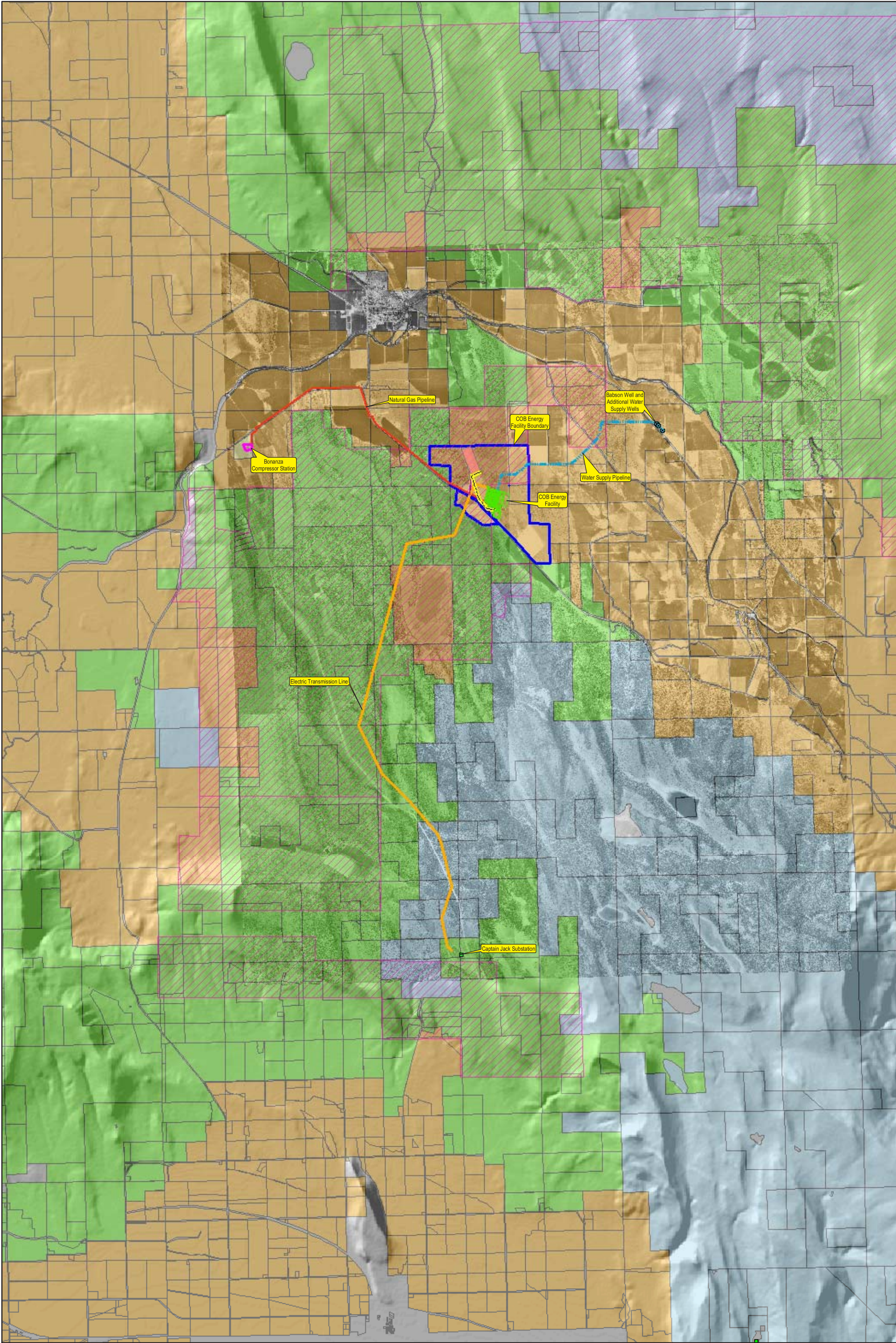
**TABLE 3.10-2**  
 Zoning for the Energy Facility—Permanent Disturbance

Description	EFU Zone*		Forestry Zone*		Industrial Zone		Total	SRO	
	Acres	%	Acres	%	Acres	%	Acres	Acres	%

\* Includes lands zoned Forestry (F) and Forestry Range (FR)-F.

SRO = Significant Resource Overlay



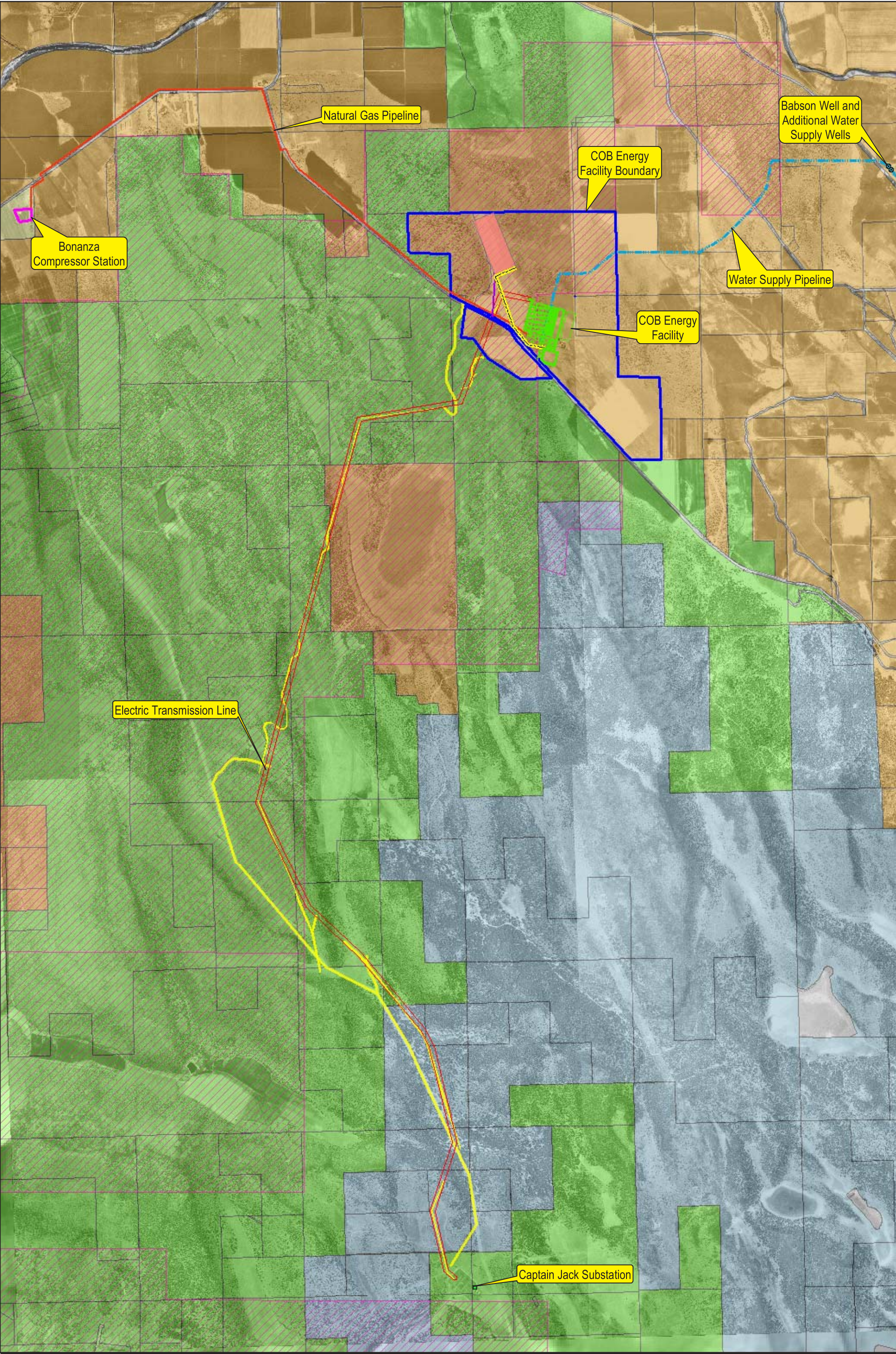


**Figure 3.10-1**  
Zoning Map with Electric  
Transmission Line Route  
COB Energy Facility  
Bonanza, OR



Figure 3.10-1  
11 x 17  
Color  
Back





Captain Jack Substation

Babson Well and Additional Water Supply Wells

Natural Gas Pipeline

Water Supply Pipeline

Irrigation Pipeline

COB Energy Facility

New and Existing Roads

Irrigated Pasture Area Access Road

Bonanza Compressor Station

154-ft Electric Transmission Line Easement

Significant Resource Overlay (SRO)

Irrigated Pasture Area

Zoned EFU

Zoned Forest

Zoned Forested Range

Light Industrial

0

700

1,400

2,800

Feet

N

1 inch equals 2,749 feet

Figure 3.10-2

Zoning Map with Electric Transmission Line Roads

COB Energy Facility

Bonanza, OR

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Figure 3.10-2  
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Figure 3.10-3  
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